REMARKS

A new Abstract is provided, as requested.

The specification is amended as courteously suggested.

A drawing proposal is attached as required.

The allowability of claims 8 and 13 upon attending to the objections under 35 USC 112, second paragraph, which is done above, is acknowledged appreciatively and accepted. It is the applicant's belief that these changes merely for the informalities noted in the action with respect to claims the patentability of which is acknowledged in the Action cannot for this reason affect patentability so as to invoke any present Festo decision.

The rejection of claim 1 under 35 USC 103 for obviousness from the cited Deferme and Thomas patents is traversed, because even the action does not assert that they disclose the constant pressure claimed.

Reconsideration and allowance are, therefore, requested.

Respectfully submitted,

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ABSTRACT

For a vehicle suspension, forward (return) movement of a piston in a damper cylinder is converted into a displacement of a support of an elastic element of a compression (expansion) valve relative to a seat of the valve in accordance with a respective deformation of the elastic element and a respective force with which the elastic element presses a shut-off element to the valve seat.

The device for carrying out the third and fifth main variants of the proposed method has the following distinctions over the device designed for carrying out the first and third main variants of the proposed method.

A device for carrying out the second and fourth main variants of the proposed method is a liquid damper which has a compression chamber and an expansion chamber, which are formed as a result of dividing the damper cavity with a piston. The piston is secured to an end of a rod and consists of at least two elements. During the forward (return) movement of the piston in the working cylinder of the damper, the flow of the working liquid from the compression (expansion) chamber into the expansion (compression) chamber goes through a compression (expansion) channel which includes at least a compression (expansion) valve. The compression valve has:

The device for carrying out the fourth and sixth main variants of the proposed method has the following distinctions over the device designed for carrying out the second and fourth main variants of the proposed method.

Set of Claims What is claimed is:

1. (amended) A In a method for adjusting the resistance force of a liquid damper, the having a cavity of which is divided into at least two chambers, by a piston for the volume of one of which, a compression (expansion) chamber, is the chamber to reduced, and as the volume of another, an expansion (compression) chamber, is increased during forward (return) the other of the chambers expands during movement of a the piston, dividing them, the piston being positioned in a working cylinder of the damper, wherein due to the action of an excessive pressure formed in the compression (expansion) chamber relative to other cavities of the damper, during forward (return) movement of the piston working, liquid flows through a compression (expansion) channel which couples to the compression (expansion) one of the chambers to other cavities of the damper, the action of the excessive pressure of the working liquid on parts of the damper creates a resistance force of the damper, to mechanical energy spent on displacing the piston is consumed to accomplish work on overcoming said resistance force, wherein in order, means to adjust the resistance force of the damper a flow cross section of the compression (expansion) channel is changed depending on the value of the excessive pressure, wherefore the force with which the excessive pressure acts acting on a movable element of a compression (expansion) valve, a current position of which determines a current linear size of a slit of that valve, is balanced by an oppositely directed elastic force of to an elastic element of that the valve, characterized in that controlled displacement is provided for at least one part of the damper whose position relative to another part of the damper affects the size of the improvements wherein the flow cross section of the compression (expansion) channel, the forward (return) movement of the piston is converted into a change of the position of those parts is adjusted relative to one another, wherein each a position of the piston in the working cylinder of the damper sets in accordance therewith a

position of those parts relative to one another, and each such position of the parts sets in accordance therewith a value of the flow cross section of the compression (expansion) channel corresponding to cavity for a constant value of the excessive pressure.

8. (amended) A method according to claim 1, characterized in that thefor adjusting the resistance of a hydraulic damper which has at least two chambers, the volume of one of which, a compression (expansion) chamber, is reduced, and the volume ref the other, an expansion (compression) chamber, .is increased during forward (return) movement of thea piston dividing them in a working cylinder of said damper, wherein due to the action of excessive pressure developed in said compression (expansion) chamber relative to other cavities of said damper during forward (return) movement of said piston, working liquid flows through a compression (expansion) channel which couples said compression (expansion) chamber to the other cavities of said damper, the action of excessive pressure of the working liquid on parts of said damper creates the resistance of said damper, mechanical energy spent on displacing said piston being consumed to accomplish work on overcoming the resistance, wherein in order to adjust the resistance of said damper, a flow cross section of said compression (expansion) channel is changed, depending on the value of excessive pressure, wherefore a force with which said excessive pressure is acting on a movable element of a compression (expansion) valve whose current position determines a current linear size of a slit of said valve, is balanced by an oppositely directed elastic force of an elastic element of said valve, characterized in that said forward (return) movement of said piston is converted into a linear displacement of a support of thesaid elastic element of

thesaid compression (expansion) valve relative to a seat of thatsaid valve, each position of the support relative to the seat sets in accordance therewith a value of elasticsaid piston in said working cylinder is set in accordance with a respective position of said seat of said valve, a respective value of deformation of thesaid elastic element of thesaid compression (expansion) valve when closed and an elastic respective force with which thesaid elastic element acts on thepresses said movable element against said seat of thesaid valve when closed, thea current position of which determinesmovable element determining the current linear size of thesaid slit of thatsaid valve.

13. (amended) A device for adjusting the resistance force of a liquidhydraulic damper, which device is comprises a liquidhydraulic damper and has compression and expansion chambers, formed as a result of dividing a cavity of thesaid damper with a piston which is secured to a rod, a compression (expansion) channel, through which there is a flow of a wherethrough working liquid flows from thesaid compression (expansion) chamber to thesaid expansion (compression) chamber during forward (return) movement of thesaid piston in a working cylinder of thesaid damper and which includes at least a compression (expansion) valve which hascomprises a plate coveringclosing an outlet aperture of the supply channel of thatsaid valve fromon the side of thesaid expansion (compression) chamber, an elastic element, the elastic deformation of which occurs along thea longitudinal axis of thesaid working cylinder of thesaid damper, and a support of the elastic element, which fixes the position of the end of thesaid elastic element to fix a position of that end of said elastic element which is opposite theto said piston, relative to a seat of thesaid compression (expansion) valve, characterized in that thesaid piston of thesaid damper and thesaid support of

the. said elastic element of thesaid compression (expansion) valve have the possibilityare made so as to be capable of turning separately turning about the longitudinal axis of thesaid working cylinder of thesaid damper;; at least two longitudinal guides are madeprovided on thean inner surface of thesaid working cylinder of thesaid damper on thewithin a section coincidingthereof coincident with the piston stroke, at least one of thesaid longitudinal guides is madebeing helical, in; at each point of the piston stroke a central angle between the guides sets, an angle of turn of theturning said support of thesaid elastic element of thesaid compression (expansion) valve relative to thesaid piston, is preset by the central angle between said guides; a structural element, via by which thesaid piston interacts with one of thesaid guides, is positioned on a side surface of thesaid piston facing the inner surface of thesaid working cylinder of thesaid damper, a; another structural element viaby which thesaid support of thesaid elastic element of thesaid compression (expansion) valve interacts with another the other one of said guides, is positioned on a side surface of that support, the support of

the said support facing the inner surface of said working cylinder of said damper; said support of said elastic element of thesaid compression (expansion) valve has the possibilityis made an as to be capable of moving along a cylindrical shank of thesaid piston, the axis of which shankhas an axis thereof coincidesnt with the longitudinal axis of thesaid working cylinder of thesaid damper and on the external surface of which is provided with at least one longitudinal, helical guide is made, thison an external surface thereof, said guide setspresetting a longitudinal position of thesaid support of thesaid elastic element of thesaid compression (expansion) valve on the cylindrical shank of thesaid piston for each angle of turn of thatturning said support relative to thesaid piston;; a third structural element, via by

which thesaid support of thesaid elastic element of thesaid compression (expansion) valve interacts with thesaid guide positioned on the shank of thesaid piston, is positioned on a side surface of thatsaid support facing the cylindrical shank of thesaid piston, the said .structural element, via by which thesaid support of thesaid elastic element of thesaid compression (expansion) valve interacts with thesaid guide madeprovided on thesaid working cylinder of thesaid damper, has the possibilityis made so as to be capable of moving along thatsaid support in the direction of the longitudinal axis of thesaid working cylinder of thesaid damper by a lengthmuch as at least equal to the maximum lengthtravel of movement of thatsaid support along the cylindrical shank of thesaid piston.

Practitioner's Docket No. U 013214-0 *PATENT*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Evgeny Ivanovich TERNOVSKY, et al.
Serial No.: 09/744,003 Group No.: 3683
Filed: January 17, 2001 Examiner: M. Sy
For: METHOD FOR ADJUSTING THE RESISTANCE OF A HYDRAULIC DAMPER, DEVICE FOR REALIZING THE SAME AND VARIANTS

Assistant Commissioner for Patents
Washington, D.C. 20231

SUBMISSION OF PROPOSED DRAWING AMENDMENT FOR APPROVAL BY EXAMINER (37 C.F.R. 1.123)

Attached please find **a copy of the original drawing(s)**

(check applicable items)

☒ with red ink markings,

showing the proposed changes to the drawing(s) in this application, for which the approval of the Examiner is requested.

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SIGNATURE OF PRACTITIONER

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NOTE: 37 C.F.R. 1.123 indicates that "Where a change to the drawings is desired a sketch in permanent ink showing proposed changes, in red, to become part of the record, must be filed for approval by the examiner and should be in separate paper."

NOTE: While drawings submitted under §§ 1.81, 1.83-1.85, 1.152, 1.165, 1.774, and 1.437 may not be filed by facsimile, proposed drawing corrections for approval may be submitted by facsimile transmission. Notice of Oct. 15, 1993, 58 Fed. Reg. 54,494-54,504, at 54,495.